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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/579,738	05/18/2006	Motohiro Itadani	4918-0106PUS1	3502

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EXAMINER

CALEY, MICHAEL H

ART UNIT	PAPER NUMBER
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2871

NOTIFICATION DATE	DELIVERY MODE
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05/20/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary	Application No. 10/579,738	Applicant(s) ITADANI ET AL.	
	Examiner Michael H. Caley	Art Unit 2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 May 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>5/18/06; 8/24/06</u> | 6) <input checked="" type="checkbox"/> Other: <u>JP2003-149643 Derwent Abstract</u> |

DETAILED ACTION

Specification

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested:

In-plane switching mode liquid crystal display device having a biaxial optically anisotropic member

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by Suzuki et al. (U.S. Patent No. 6,115,095 “Suzuki”).

Regarding claim 1, Suzuki discloses a liquid crystal display device of an in-plane switching mode (Figure 11; abstract) which comprises a pair of polarizers (15, 16) which are a polarizer at an output side and a polarizer at an incident side and disposed at relative positions such that absorption axes of the polarizers are approximately perpendicular to each other (Column 16 line 40) and at least an optically anisotropic member (Column 16 lines 46-50) and a liquid crystal cell (20) which are disposed between the pair of polarizers (Figure 11), wherein

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$n_z > n_x > n_y$ (Column 16 lines 51-52; n_z is equated to n_{zF} , n_x is equated to n_{sF} [slow, optical axis], n_y is equated to n_{fF} [fast axis], Column 3 lines 13-21); and the in-plane slow axis (optical axis) of the optically anisotropic member and the absorption axis of a polarizer disposed closer to the anisotropic member are disposed at relative positions approximately parallel or approximately perpendicular to each other (Column 16 lines 52-57).

Regarding claim 2, Suzuki discloses the absorption axis of the polarizer at the output side (Column 16 line 40 [the absorption axis is inherently orthogonal to the -15 degree transmission axis of the output polarizer]) and the in-plane slow axis of a liquid crystal of the liquid crystal cell under application of no voltage are disposed at relative positions parallel to each other [at 75 degrees; Column 16 lines 36-40), and the optically anisotropic member is disposed between the liquid crystal cell and the polarizer at the output side (Figure 11).

Regarding claim 3, Suzuki discloses the in-plane slow axis of the optically anisotropic member and the in-plane slow axis of a liquid crystal of the liquid crystal cell under application of no voltage are disposed at relative positions approximately perpendicular to each other (Column 16 lines 37, 56).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

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having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki in view of Mori et al. (U.S. Patent No. 6,184,957 "Mori").

Suzuki fails to disclose the type of material used to form the optically anisotropic member. Mori, however, teaches polymers having a negative value of intrinsic birefringence as advantageous for forming optically anisotropic members for in-plane switching liquid crystal displays (Column 9 lines 44-52, Column 3 lines 16-50).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to form the optically anisotropic member from a polymer having a negative value of intrinsic birefringence. One would have been motivated to form the member from such a material due to its status in the art as a preferable material for forming such optical members (Column 8 lines 44-52).

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Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki in view of Yamaoka et al. (U.S. Patent No. 6,417,904 “Yamaoka”).

Suzuki fails to disclose lamination of a transparent resin having an alicyclic structure to at least one face of a layer of the optically anisotropic member. Yamaoka, however, teaches lamination of such a resin to the optically anisotropic member as a base film (Column 8 lines 36-55; Column 3 line 65) as a means of preventing deterioration of the optically anisotropic member (Column 1 lines 28-45).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to laminate the optically anisotropic member to a transparent resin having an alicyclic structure. One would have been motivated to combine the optically anisotropic member to a transparent resin as proposed to improve resistance of the member to negative environmental effects (Yamaoka: Column 1 lines 41-45).

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki in view of Uejima (JP 2003-246014).

Suzuki fails to disclose the content of residual volatile components in the optically anisotropic member. Uejima teaches a range of residual volatile components including the range of 0.1% by weight or smaller (abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to form the optically anisotropic member to have residual volatile components in the range of 0.1% by weight or smaller as a means of improving the durability and adhesion strength of the film according to the teachings of Uejima (abstract).

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki in view of Shuzo (JP 2003-149643).

Suzuki fails to disclose a protective film of a polarizer at a side of vision in the liquid crystal display device as comprising a low refractive index layer that is formed with aero gel and has a refractive index of 1.36 or smaller. Shuzo, however, teaches such a protective film layer as a means of providing a protective and anti-reflective function (abstract; Derwent abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to form a protective film as proposed to benefit from a display protection and anti-reflection function according to the teachings of Shuzo.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael H. Caley whose telephone number is (571)272-2286. The examiner can normally be reached on M-F 6:00 a.m - 2:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms can be reached on (571)272-1787. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Michael H. Caley/
Primary Examiner, Art Unit 2871